Order Code RL31243

Safe Drinking Water Act: A Summary of the Act and Its Major Requirements

Updated December 6, 2002

Mary Tiemann
Specialist in Environmental Policy
Resources, Science, and Industry

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Summary

This report summarizes the Safe Drinking Water Act (SDWA) and its major programs and regulatory requirements. It excerpts, with several additions, the SDWA chapter of CRS Report RL30798, which provides summaries of the principal environmental statutes administered by the Environmental Protection Agency. This report includes the drinking water security provisions added to the SDWA by the Public Heath Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188).

The Safe Drinking Water Act, Title XIV of the Public Health Service Act, is the key federal law for protecting public water supplies from harmful contaminants. First enacted in 1974 and substantially amended in 1986 and 1996, the Act is administered through programs that establish standards and treatment requirements for public water supplies, control underground injection of wastes, finance infrastructure projects, and protect sources of drinking water. The 1974 law established the current federal-state arrangement in which states may be delegated primary implementation and enforcement authority for the drinking water program. The state-administered Public Water Supply Supervision Program remains the basic program for regulating the nation's public water systems, and 49 states have assumed this authority. SDWA appropriations are authorized through FY2003.

In addition to reviewing key programs and requirements of the SDWA, this report includes statistics on the number and types of regulated public water systems. It also provides tables that list all major amendments, with the year of enactment and public law number, and that cross-reference sections of the Act with the major U.S. Code sections of the codified statute.

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Introduction

The Safe Drinking Water Act (SDWA), Title XIV of the Public Health Service Act, is the key federal law for protecting public water supplies from harmful contaminants. First enacted in 1974 and substantially amended in 1986 and 1996, the Act is administered through programs that establish standards and treatment requirements for public water supplies, control underground injection of wastes, finance infrastructure projects, and protect sources of drinking water. The 1974 law established the current federal-state arrangement in which states may be delegated primary implementation and enforcement authority for the drinking water program. The state-administered Public Water Supply Supervision (PWSS) Program remains the basic program for regulating the nation's public water systems, and 49 states have assumed this authority. SDWA appropriations are authorized through FY2003. **Table 1** identifies the original enactment and subsequent amendments.

Table 1. Safe Drinking Water Act and Amendments
(codified generally as 42 U.S.C. 300f-300j)

Year	Act	Public Law Number
1974	Safe Drinking Water Act of 1974	P.L. 93-523
1977	Safe Drinking Water Act Amendments of 1977	P.L. 95-190
1979	Safe Drinking Water Act Amendments	P.L. 96-63
1980	Safe Drinking Water Act Amendments	P.L. 96-502
1986	Safe Drinking Water Act Amendments of 1986	P.L. 99-339
1988	Lead Contamination Control Act of 1988	P.L. 100-572
1996	Safe Drinking Water Act Amendments of 1996	P.L. 104-182

This report summarizes the Act's major provisions, programs, and requirements, and is adapted from a broader document, CRS Report RL30798, *Environmental Protection Laws: Summaries of Statutes Administered by the Environmental Protection Agency*. It also provides selected statistics on the universe of regulated public water systems, and lists references for further information on the Act and its implementation. **Table 5**, located at the end of this report, cites the major U.S. Code sections of the Act and the equivalent sections of the statute.

Background

As indicated by **Table 1**, the Safe Drinking Water Act has been amended several times since enactment of the Safe Drinking Water Act of 1974 (P.L. 93-523). Congress passed this law after nationwide studies of community water systems revealed widespread water quality problems and health risks resulting from poor

operating procedures, inadequate facilities, and uneven management of public water supplies in communities of all sizes. The 1974 law gave EPA substantial discretionary authority to regulate drinking water contaminants and gave states the lead role in implementation and enforcement.

The first major amendments (P.L. 99-339), enacted in 1986, were largely intended to increase the pace at which EPA regulated contaminants and to increase the protection of ground water. From 1974 until 1986, EPA had regulated just one additional contaminant beyond the 22 standards previously developed by the Public Health Service. The 1986 amendments required EPA to: (1) issue regulations for 83 specified contaminants by June 1989 and for 25 more contaminants every 3 years thereafter, (2) promulgate requirements for disinfection and filtration of public water supplies, (3) ban the use of lead pipes and lead solder in new drinking water systems, (4) establish an elective wellhead protection program around public wells, (5) establish a demonstration grant program for state and local authorities having designated sole-source aquifers to develop groundwater protection programs, and (6) issue rules for monitoring injection wells that inject wastes below a drinking water source. The amendments also increased EPA's enforcement authority.

Congress again amended SDWA with the Lead Contamination Control Act of 1988 (P.L. 100-572). These provisions were intended to reduce exposure to lead in drinking water by requiring the recall of lead-lined water coolers, and requiring EPA to issue a guidance document and testing protocol for states to help schools and day care centers identify and correct lead contamination in school drinking water.

After the regulatory schedule mandated in the 1986 amendments proved to be unworkable for EPA, states and public water systems, the 104th Congress made sweeping changes to the Act with the SDWA Amendments of 1996 (P.L. 104-182). As over-arching themes, these amendments aimed to target resources to address the greatest health risks, add some regulatory flexibility, provide funding for federal drinking water mandates, and improve water systems' compliance capacity. The amendments revoked the requirement that EPA regulate 25 new contaminants every 3 years and provided a risk-based approach for selecting contaminants for regulation. Among other changes, Congress added some flexibility to the standard setting process, required EPA to conduct health risk reduction and cost analyses for most new standards, authorized a state revolving loan fund (SRF) program to help public water systems finance projects needed to meet SDWA requirements, added programs to improve small system compliance, expanded consumer information requirements, increased the Act's focus on pollution prevention through a voluntary source water protection program, and streamlined the Act's enforcement provisions. P.L. 104-182 extended authorizations for appropriations under the Act through FY2003.

In June 2002, drinking water security provisions were added to the SDWA through the Public Heath Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188). Title IV of the Act includes requirements for community water systems serving more than 3,300 individuals to conduct vulnerability assessments and prepare emergency preparedness and response plans and requirements for EPA to conduct research on preventing and responding to terrorist or other attacks.

Regulated Public Water Systems

Federal drinking water regulations apply to the approximately168,000 privately and publicly owned water systems that provide piped water for human consumption to at least 15 service connections or that regularly serve at least 25 people. Roughly 54,000 of these systems are *community water systems* (CWSs) that serve the same residences year-round. These 54,000 systems provide water to approximately 264 million people. All federal regulations apply to these systems. Another 20,559 public water systems are *non-transient, non-community water systems* (NTNCWS), such as schools or factories, that have their own water supply and generally serve the same individuals for more than 6 months but not year-round. Most drinking water regulations apply to these systems.[1] More than 93,200 other public water systems are *transient non-community water systems* (TNCWS), such as campgrounds and gas stations, that provide their own water to transitory customers. Only regulations for contaminants that pose immediate health risks apply to these systems.[2]

Most community water systems (85%) are relatively small, serving 3,300 people or fewer; these systems provide water to just 10% of the total population served by community water systems. In contrast, 7% of systems serve populations of 10,000 or more, but provide water to more than 81% of the population served. Among the community water systems, 79% rely on ground water and 21% rely on surface water. (See **Table 2** for statistics on community water systems.)

Table 2. Size Categories of Community Water Systems

System Size (population served)	Number of Community Water Systems	Population Served (millions)	Percent of Community Water Systems	Percent of Population Served
Very small (25-500)	31,688	5.1	59%	2%
Small (501-3,300)	14,149	19.9	26%	8%
Medium (3,301-10,000)	4,458	25.8	8%	10%
Large (10,001-100,000)	3,416	96.7	6%	37%
Very large (>100,000)	353	116.3	1%	44%
Total	54,064	263.9	100%	100%

Source: U.S. Environmental Protection Agency. EPA Safe Drinking Water Information System, *Factoids. Drinking Water and Ground Water Statistics for 2000.* Available on the Internet at [http://www.epa.gov/safewater/data/00factoids.pdf].

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[1]U.S. Environmental Protection Agency, *25 Years of the Safe Drinking Water Act: History and Trends*, 1999, p. 3. Available at [http://www.epa.gov/safewater/sdwa 25].

[2]EPA's long-standing policy is to exclude transient systems from drinking water regulations except for those contaminants, such as nitrate, that EPA believes have the potential to cause immediate adverse human health effects resulting from short-term exposure. (Source: Environmental Protection Agency. National Primary Drinking Water Regulation on Lead and Copper, minor revisions. Jan. 12, 2000 (65 *FR* 1950).)

More than 99% (19,975) of the non-transient, non-community water systems are small or very small and provide water to 83% of the population served by these systems. Approximately 108,000 of the nearly 114,000 non-community water systems (transient and non-transient systems combined) serve 500 or fewer people. These statistics give some insight into the scope of technological, economic, and managerial challenges small public water systems may face in meeting federal drinking water regulations. **Tables 3** and **4** provide statistics for non-transient non-community water systems and transient non-community water systems.

Table 3. Non-Transient Non-Community Water Systems (NTNCWS)

System Size (population served)	Number of NTNCWS	Population Served (millions)	Percent of NTNCWS	Percent of Population Served
Very small (25-500)	17,598	2.4	86%	35%
Small (501-3,300)	2,839	2.8	14%	40%
Medium (3,301-10,000)	96	0.48	0%	7%
Large (10,001-100,000)	23	0.62	0%	9%
Very large (>100,000)	3	0.58	0%	8%
Total	20,559	6.92	100%	100%

Source: EPA Safe Drinking Water Information System, *Factoids. Drinking Water and Ground Water Statistics for 2000.* NTNCWS regularly supplies water to at least 25 of the same people at least 6 months per year, but not year-round (e.g., schools, factories, office buildings and hospitals which have their own water systems. Most regulatory requirements apply to these systems.

Table 4. Transient Non-Community Water Systems (TNCWS)

System size (population served)	Number of TNCWS	Population Served (millions)	Percent of TNCWS	Percent of Population Served
Very small (25-500)	90,391	7.5	97%	58%
Small (501-3,300)	2,632	2.6	3%	20%
Medium (3,301-10,000)	130	0.73	0%	6%
Large (10,001-100,000)	54	1.33	0%	10%
Very large (>100,000)	3	0.73	0%	6%
Total	93,210	12.9	100%	100%

Source: EPA Safe Drinking Water Information System, *Factoids. Drinking Water and Ground Water Statistics for 2000.* Transient non-community water systems provide water in places where people do not remain for long periods of time, such as gas stations and campgrounds. Only regulations for contaminants that pose immediate health risks (e.g. nitrate and bacteria) apply to these systems.

National Drinking Water Regulations

A key component of SDWA is the requirement that EPA promulgate national primary drinking water regulations for contaminants that may pose health risks and that are likely to be present in public water supplies. Section 1412 instructs EPA on how to select contaminants for regulation and specifies how EPA must establish regulations once a contaminant has been selected. The regulations apply to the roughly 168,000 privately and publicly owned water systems that provide piped water for human consumption to at least 15 service connections or that regularly serve at least 25 people. EPA has issued regulations for more than 90 contaminants, including regulations setting new standards for drinking water disinfectants and their byproducts and for microbial contaminants, a regulation establishing a standard for uranium in drinking water, and a regulation revising the standard for arsenic.

Contaminant Selection and Regulatory Schedules. Section 1412, as amended in 1996, directs EPA to select contaminants for regulatory consideration based on occurrence, health effects, and meaningful opportunity for health risk reduction. Starting in 1998 and then every 5 years, EPA must publish a list of contaminants that may warrant regulation. As of 2001, and every 5 years thereafter, EPA must determine whether or not to regulate at least 5 of the listed contaminants. The Act requires EPA to evaluate contaminants that present the greatest health concern and to regulate those contaminants that occur at concentration levels and frequencies of public health concern. The amendments also included schedules for EPA to complete regulations for specific contaminants (i.e., radon, arsenic, disinfectants and disinfection byproducts and *Cryptosproridium*).

Standard Setting. For each contaminant that EPA determines requires regulation, EPA must set a nonenforceable maximum contaminant level goal (MCLG) at a level at which no known or anticipated adverse health effects occur and which allows an adequate margin of safety. EPA must then set an enforceable standard, a maximum contaminant level (MCL), as close to the MCLG as is "feasible" using best technology, treatment techniques, or other means available (taking costs into consideration). EPA generally sets standards based on technologies that are affordable for large communities; however, under P.L. 104-182, EPA is now required, when issuing a regulation for a contaminant, to list any technologies or other means that comply with the MCL and that are affordable for three categories of small public water systems (serving populations of 10,000 or fewer) If EPA does not identify "compliance" technologies that are affordable for small systems, then EPA must identify small system "variance" technologies or other means that may not achieve the MCL but are protective of public health.

The 1996 amendments authorized EPA to set a standard at other than the feasible level if the feasible level would lead to an increase in health risks by increasing the concentration of other contaminants or by interfering with the treatment processes used to comply with other SDWA regulations. In such cases, the standard or treatment techniques must minimize the overall health risk. Also, when proposing a regulation, EPA now must publish a determination as to whether or not the benefits of the standard justify the costs. If EPA determines that the benefits do not justify the costs, EPA may, with certain exceptions, promulgate a standard that maximizes health risk reduction benefits at a cost that is justified by the benefits.

New regulations generally become effective 3 years after promulgation. Up to 2 additional years may be allowed if EPA (or a state in the case of an individual system) determines the time is needed for capital improvements. (Section 1448 outlines procedures for judicial review of EPA actions involving the establishment of SDWA regulations and other final EPA actions.)

Risk Assessment. The 1996 amendments also added risk assessment and risk communication provisions to SDWA. When developing regulations, EPA is required to: (1) use the best available, peer-reviewed science and supporting studies and data; and (2) make publicly available a risk assessment document that discusses estimated risks, uncertainties, and studies used in the assessment. When proposing drinking water regulations, EPA must publish a health risk reduction and cost analysis (HRRCA). EPA may promulgate an interim standard without first preparing this benefit-cost analysis or making a determination as to whether the benefits of a regulation would justify the costs if the Administrator determines that a contaminant presents an urgent threat to public health.

Variances and Exemptions. In anticipation that some systems, particularly smaller ones, could have difficulty complying with every regulation, Congress included in SDWA provisions for variances and exemptions. Section 1415 authorizes a state to grant a public water system a *variance* from a standard if raw water quality prevents meeting the standard despite application of best technology, and the variance does not result in an unreasonable risk to health. A 1996 provision (Subsection 1415(e)) authorizes variances specifically for small systems based on application of best affordable technology. When developing a regulation, if EPA cannot identify a technology that meets the standard and is affordable for small systems, EPA must identify variance technologies that are affordable but do not necessarily meet the standard. In cases where EPA has identified variance technologies, then states may grant small system variances to systems serving 3,300 or fewer persons if the system cannot afford to comply with a standard (through treatment, an alternative water source, or restructuring) and the variance ensures adequate protection of public health. States also may grant variances to systems serving between 3,301 and 10,000 persons with EPA approval. To receive a small system variance, the system must install a variance technology. Variances are not available for microbial contaminants. To date, EPA has not identified small system variance technologies for any drinking water regulation.

As noted above, regulations become effective 3 years (and sometimes 5 years) after promulgation. Section 1416 authorizes states to grant public water systems temporary *exemption*s from standards or treatment techniques if a system cannot comply for other compelling reasons (including costs) and the system was in operation before the effective date of the regulation. An exemption is intended to give a water system more time to comply with a regulation and can be issued only if it will not result in an unreasonable health risk. A qualified system may receive an exemption for up to 3 years beyond the compliance deadline. Systems serving 3,300 or fewer persons may receive a maximum of 3 additional 2-year extensions, for a total exemption duration of 9 years.

State Primacy

Section 1413 authorizes states to assume primary oversight and enforcement responsibility (primacy) for public water systems. To assume primacy, states must adopt regulations at least as stringent as national requirements, develop adequate procedures for enforcement, adopt authority for administrative penalties, maintain records, and develop a plan for providing safe drinking water under emergency circumstances. Currently, 55 of 57 states and territories have primacy authority. Under Section 1443, Congress authorized appropriations of $100 million annually for EPA to make grants to states to administer the public water system supervision (PWSS) program. This section directs EPA, in accordance with regulations, to allot the sums among the states "on the basis of population, geographical area, number of public water systems, and other relevant factors." It further authorizes states to use a portion of their SRF grant to cover the costs of administering the PWSS program.

Enforcement, Consumer Information, and Citizen Suits

The Safe Drinking Water Act requires public water systems to monitor their water supplies to ensure compliance with drinking water standards and to report monitoring results to the states. States review monitoring data submitted by public water systems, and also conduct their own monitoring, to determine system compliance with drinking water regulations. EPA monitors public water system compliance primarily by reviewing the violation data submitted by the states.

Section 1414 requires that, whenever EPA finds that a public water system in a state with primary enforcement authority does not comply with regulations, the Agency must notify the state and the system and provide assistance to bring the system into compliance. If the state fails to commence enforcement action within 30 days after the notification, EPA is authorized to issue an administrative order or commence a civil action. In a nonprimacy state, EPA must notify an elected local official (if any has jurisdiction over the water system) before commencing an enforcement action against the system.

The 1996 amendments strengthened enforcement authorities, streamlined the process for issuing federal administrative orders, increased administrative penalty amounts, made more sections of the Act clearly subject to EPA enforcement, and required states (as a condition of primacy) to have administrative penalty authority. The amendments also provided that no enforcement action may be taken against a public water system that has a plan to consolidate with another system.

Consumer Information and Reports. Enforcement provisions also require public water systems to notify customers of violations of drinking water standards or other requirements, such as monitoring and reporting requirements. Systems must notify customers within 24 hours of any violations that have the potential to cause serious health effects. Additionally, community water systems must mail to all customers an annual "consumer confidence report" on contaminants detected in their drinking water. States are required to prepare annual reports on the compliance of public water systems and to make summaries available to EPA and the public; EPA must prepare annual national compliance reports.

Citizen Suits. Section 1449 provides for citizens' civil actions. Citizen suits may be brought against any person or agency allegedly in violation of provisions of the Act, or against the EPA Administrator for alleged failure to perform any action or duty which is not discretionary.

Compliance Improvement Programs

The 1996 amendments added two state-administered programs aimed at improving public water system compliance with drinking water regulations: the operator certification program and the capacity development program. Section 1419 required states to adopt programs for training and certifying operators of community and nontransient noncommunity systems (e.g., schools and workplaces that have their own wells). In 1999, EPA issued guidelines specifying minimum certification standards. As of 2001, EPA is required to withhold 20% of a state's revolving fund (SRF) annual grant unless the state has adopted and is implementing an operator certification program. Section 1420 required states to establish capacity development programs, also based on EPA guidance. These programs must include: (1) legal authority to ensure that new systems have the technical, financial, and managerial capacity to meet SDWA requirements; and (2) a strategy to assist existing systems that are experiencing difficulties to come into compliance. Starting in FY2001, EPA is required to withhold a portion of SRF grants from states that do not have capacity development strategies.

Ground Water Protection Programs

Most public water systems rely on ground water as a source of drinking water, and Part C of the Act focuses on ground water protection.[3] Section 1421 authorized the establishment of state underground injection control (UIC) programs to protect underground sources of drinking water. In 1977, EPA issued mandated regulations that contained minimum requirements for state UIC programs to prevent underground injection that endangers drinking water sources, and that required states to prohibit any underground injection not authorized by state permit. The law specified that the regulations could not interfere with the underground injection of brine from oil and gas production or recovery of oil unless underground sources of drinking water would be affected. Section 1422 authorized affected states to submit plans to EPA for implementing UIC programs and, if approved, to assume primary enforcement responsibility. If a state's plan has not been approved, or the state has chosen not to assume program responsibility, then EPA must implement the program (Section 1423). For oil and gas injection operations only, states with UIC programs are delegated primary enforcement authority without meeting EPA regulations, provided states demonstrate that they have an effective program that prevents underground injection that endangers drinking water sources.(Section 1425).

Subsection 1424(e) authorizes EPA to make determinations, on EPA's initiative or upon petition, that an aquifer is the sole or principal drinking water source for an

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[3]According to EPA, of 167,833 public water systems, 153,697 rely on ground water, and 14,136 rely on surface water. Among the 54,064 community water systems, 42,661 rely on ground water, and 11,403 rely on surface water.

area. In areas that overlie a designated sole-source aquifer, no federal funding may be committed for projects that EPA determines may contaminate such an aquifer. Any person may petition for sole source aquifer designation, and as of September 2001, EPA had designated 72 sole source aquifers nationwide.

The Act contains three additional state programs aimed specifically at protecting ground water. Added in 1986, Section 1427 established procedures for demonstration programs to develop, implement, and assess critical aquifer protection areas already designated by the Administrator as sole source aquifers. Section 1428, also added in 1986, established an elective state program for protecting wellhead areas around public water system wells. If a state established a wellhead protection program by 1989, and EPA approved the state's program, then EPA may award grants covering between 50% and 90% of the costs of implementing the program. Section 1429, added in 1996, authorized EPA to make 50% grants to states to develop programs to ensure coordinated and comprehensive protection of ground water within the states. Appropriations for these programs are authorized through FY2003 as follows: $15 million per year for Section 1427, $30 million per year for Section 1428, and $15 million per year for Section 1429.

Source Water Assessment and Protection Programs

In 1996, Congress broadened the Act's pollution prevention focus to embrace surface water, in addition to ground water, protection. Section 1453 required EPA to publish guidance for states to implement source water assessment programs that delineate boundaries of areas from which systems receive their water, and identify the origins of contaminants in delineated areas to determine systems' susceptibility to contamination. States with approved assessment programs may adopt alternative monitoring requirements to provide systems with monitoring relief provided under Section 1418.

Section 1454 authorized a source water petition program based on voluntary partnerships between state and local governments. States may establish a program under which a community water system or local government may submit a petition to the state requesting assistance in developing a voluntary source water quality protection partnership to: (1) reduce the presence of contaminants in drinking water; (2) receive financial or technical assistance; and (3) develop a long-term source water protection strategy. This section authorizes $5 million each year for grants to states to support petition programs. Also, states may use up to 10% of their annual SRF grant to support various source water protection activities including the petition program.

State Revolving Funds

In 1996, Congress authorized a drinking water state revolving loan fund (DWSRF) program to help systems finance improvements needed to comply with SDWA regulations (Section 1452). EPA is authorized to make grants to states to capitalize DWSRFs, which states then may use to make loans to public water systems. States must match 20% of the federal grant. FY1997 grants were allotted to states using the formula for distributing state Public Water System Supervision

grants; subsequently, grants are being allotted based on the results of needs surveys. Each state and the District of Columbia must receive at least 1% of the appropriated funds. The law authorized states to transfer as much as 33% of annual DWSRF grant to the Clean Water Act (CWA) SRF, or an equivalent amount from the CWA SRF to the DWSRF through FY2001. (In the conference report for EPA's FY2002 appropriations, Congress authorized states to continue transferring funds for FY2002.)

Drinking water SRFs may be used to provide loans for expenditures that EPA has determined will facilitate compliance or significantly further the Act's health protection objectives. States must make available 15% of their annual allotment for loan assistance to systems that serve 10,000 or fewer persons, to the extent that funds can be obligated for eligible projects. States may use up to 30% of their DWSRF grant to provide loan subsidies (including forgiveness of principal) to help economically disadvantaged communities. Also, states may use a portion of funds for technical assistance, source water protection and capacity development programs, and for operator certification.

The law authorized appropriations of $599 million for FY1994 and $1 billion per year for FY1995 through FY2003 for DWSRF capitalization grants. EPA is directed to reserve from annual DWSRF appropriations: 0.33% for financial assistance to several Trusts and Territories; $10 million for health effects research on drinking water contaminants; $2 million for the costs of monitoring for unregulated contaminants; and up to 2% for technical assistance. EPA may use 1.5% of funds each year for making grants to Indian Tribes and Alaska Native villages.[4]

Drinking Water Security

In June 2002, President Bush signed into law H.R. 3448, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188, H. Rept. 107-481). Title IV of the Bioterrorism Act adds amends SDWA to address threats to drinking water security. Key provisions are summarized below.[5]

Vulnerability Assessments. New Section 1433 requires each community water system serving more than 3,300 individuals to conduct an assessment of the system's vulnerability to terrorist attacks or other intentional acts to disrupt the provision of a safe and reliable drinking water supply. This provision establishes deadlines, based on system size, for community water systems to certify to EPA that they have conducted a vulnerability assessment and to submit to EPA a copy of the assessment. The law exempts the contents of the vulnerability assessments from disclosure under the Freedom of Information Act (except for information contained in the certification identifying the system and the date of the certification), and provides for civil and criminal penalties for inappropriate disclosure of information by government officials.

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[4]For more information, see CRS Report 97-677, *Safe Drinking Water Act: State Revolving Fund Program*.

[5]For more information on drinking water security issues, see CRS Report RL31294, *Safeguarding the Nation's Drinking Water: EPA and Congressional Actions.*

Additionally, Section 1433 requires each community water system serving more than 3,300 individuals to prepare or revise an emergency response plan incorporating the results of the vulnerability assessment. EPA is required to provide guidance to smaller systems on how to conduct vulnerability assessments, prepare emergency response plans, and address threats.

The Act authorizes $160 million for FY2002, and such sums as may be necessary for FY2003 through FY2005, to provide financial assistance to community water systems to conduct vulnerability assessments, to prepare response plans, and for expenses and contracts to address basic security enhancements and significant threats.

The Bioterrorism Act also added new SDWA Sections 1434 and 1435 directing the EPA Administrator to review methods by which terrorists or others could disrupt the provision of safe water supplies. EPA must review methods for preventing, detecting, and responding to such disruptions, and methods for providing alternative drinking water supplies if a water system was destroyed or impaired. The Act authorizes $15 million for FY2002, and such sums as may be necessary for FY2003 through FY2005 to carry out Sections 1434 and 1435.

Emergency Powers. Under Section 1431, the Administrator has emergency powers to issue orders and commence civil action if: (1) a contaminant likely to enter a public drinking water supply system poses a substantial threat to public health, and (2) state or local officials have not taken adequate action. The Bioterrorism Act amended this section to specify that EPA's emergency powers include the authority to act when there is a threatened or potential terrorist attack or other intentional act to disrupt the provision of safe drinking water or to impact the safety of a community's drinking water supply.

Tampering with Public Water Systems. Section 1432 provides for civil and criminal penalties against any person who tampers, attempt to tamper, or makes a threat to tamper with a public water system. Amendments made by the Bioterrorism Act increase criminal and civil penalties for tampering, attempting to tamper, or making threats to tamper with public water supplies. The maximum prison sentence for tampering is increased from 5 to 20 years. The maximum prison sentence for attempting to tamper, or making threats to tamper, is increased from 3 to 10 years. The maximum fine that may be imposed for tampering is increased from $50,000 to $1 million. The maximum fine for attempting to tamper, or threatening to tamper, is increased from $20,000 to $100,000.

Emergency Assistance. SDWA Subsection 1442(b) authorizes EPA to provide technical assistance and to make grants to states and public water systems to assist in responding to and alleviating emergency situations. The Bioterrorism Act amended Subsection 1442(d) to authorize appropriations for such emergency assistance of not more than $35 million for FY2002, and such sums as may be necessary for each fiscal year thereafter.

Additional Provisions

Lead-free Plumbing. Section 1417 prohibits the use of any pipe, solder, or flux used in the installation or repair of public water systems or plumbing in residential or nonresidential facilities providing drinking water that is not "lead free" (as defined in the Act). This section also makes it unlawful to sell pipes, plumbing fittings or fixtures that are not lead free, or to sell solder or flux that is not lead free (unless it is properly labeled), with the exception of pipes used in manufacturing or industrial processing. The 1996 Amendments also set limits on the amount of lead that may leach from new plumbing fixtures by allowing one year for a voluntary standard to be established before requiring EPA to take regulatory action. A voluntary standard was established.

Research, Technical Assistance and Training. Section 1442 authorizes EPA to conduct research, studies, and demonstrations related to the causes, treatment, control, and prevention of diseases resulting from contaminants in water. The Agency is directed to provide technical assistance to the states and municipalities in administering their public water system regulatory responsibilities. This section authorizes $15 million annually for technical assistance to small systems and Indian Tribes, and $25 million for health effects research. (Title II of P.L. 104-182, the 1996 amendments, authorizes additional appropriations for drinking water research, not to exceed $26.6 million annually for FY1997 through FY2003.)

Demonstration Grants. The Administrator may make grants to develop and demonstrate new technologies for providing safe drinking water and to investigate health implications involved in the reclamation/reuse of waste waters (Section 1444).

Records, Inspections and Monitoring. Section 1445 states that suppliers of water regulated under the Act are required to establish and maintain records, monitor, and provide any information that the Administrator requires to carry out the requirements of the Act. The Administrator may also enter and inspect the property of water suppliers to enable him/her to carry out the purposes of the Act. Failure to comply with these provisions may result in civil penalties.

This section also requires EPA to promulgate regulations establishing the criteria for a monitoring program for unregulated contaminants. Beginning in 1999 and every 5 years thereafter, EPA must issue a list of not more than 30 unregulated contaminants to be monitored by public water systems. States are permitted to develop representative monitoring plan to assess the occurrence of unregulated contaminants in small systems, and the section authorizes $10 million to be appropriated for each of FY1999 through FY2003 to provide grants to cover the costs of monitoring for small systems. All monitoring results are to be included in a national drinking water occurrence data base created under the 1996 amendments.

National Drinking Water Advisory Council. The Act established a National Drinking Water Advisory Council, composed of 15 members (with at least two representing rural systems), to advise, consult, and make recommendations to the Administrator on activities and policies derived from the Act (Section 1446).

Federal Agencies. Any federal agency having jurisdiction over federally owned and maintained public water systems must comply with all federal, state and

local drinking water requirements as well as any underground injection control programs. The Act provides for waivers in the interest of national security (Section 1447).

Assistance to Colonias.[6] Added in 1996, Section 1456 authorized EPA and other appropriate federal agencies to award grants to Arizona, California, New Mexico and Texas to provide assistance (not more than 50% of project costs) to *colonias* where the residents are subject to a significant health risk attributable to the lack of access to an adequate and affordable drinking water system. Congress authorized appropriations of $25 million for each of fiscal years 1997 through 1999.

Estrogenic Substances. EPA may use the new estrogenic substances screening program created in the Food Quality Protection Act of 1996 (P.L. 104-170) to provide for testing of substances that may be found in drinking water if the Administrator determines that a substantial population may be exposed to such substances (Section 1457).

Drinking Water Studies. EPA is directed to conduct drinking water studies involving subpopulations at greater risk and biological mechanisms, and studies to support several rules including those addressing disinfectants and disinfection byproducts and *Cryptosproridium*. The Centers for Disease Control and Prevention and EPA were required to conduct pilot waterborne disease occurrence studies by August 1998 (Section 1458).

Selected P.L. 104-182 Provisions Not Amending SDWA

Grants to Alaska. Section 303 of the 1996 amendments authorized EPA to make grants to the State of Alaska to pay 50% of the costs of improving sanitation for rural and Alaska Native villages. Grants are for construction of public water and wastewater systems, and for training and technical assistance programs. Appropriations were authorized at $15 million for each of fiscal years 1997 through 2000. (In the Estuaries and Clean Waters Act of 2000, P.L. 106-457, Congress reauthorized appropriations for these rural sanitation grants at a level of $40 million for each of fiscal years 2001 through 2005.)

Bottled Water. Section 305 revised section 410 of the Federal Food, Drug, and Cosmetic Act to require the Secretary of Health and Human Services to issue bottled drinking water standards for contaminants regulated under SDWA within 180 days after EPA promulgates the new standards, unless the Secretary determines that a standard is not necessary.

Wastewater Assistance to Colonias. Section 307 authorized EPA to make grants (not to exceed 50% of project costs) to colonias for wastewater treatment works. Appropriations were authorized at $25 million for each of fiscal years 1997 through 1999.

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[6]Colonias generally are described as unincorporated communities or housing developments on the U.S. side of the U.S.-Mexico border that lack some or all basic infrastructure including plumbing and public water and sewer.

Additional Infrastructure Funding. Section 401 authorized additional assistance, up to $50 million for each of fiscal years 1997 through 2003, for a grant program for infrastructure and watershed protection projects.

Selected References

U.S. Environmental Protection Agency. Office of Enforcement and Compliance Assurance. *Providing Safe Drinking Water: 1998 National Public Water Systems Compliance Report.* Report No. EPA 305-R-00-002. April 2000. 92 p. [http://www.epa.gov/safewater/annual]

U.S. Environmental Protection Agency. Office of Water. *The Clean Water and Drinking Water Infrastructure Gap Analysis Report.* Report No. EPA 816-R-02-020. September 2002. 50 p. [http://www.epa.gov/safewater/gapreport.pdf]

U.S. Environmental Protection Agency. Office of Water. *Drinking Water Infrastructure Needs Survey: Second Report to Congress.* Report No. EPA 816-R-01-004. February 2002. 85 p. [http://www.epa.gov/safewater/needs/99fullreport.pdf]

U.S. Environmental Protection Agency. Office of Water. *25 Years of the Safe Drinking Water Act History and Trends.* Report No. EPA 816-R-99-007. December 1999. 54 p. [http://www.epa.gov/safewater/sdw/trends.html]

U.S. General Accounting Office. *Drinking Water Spending Constraints Could Affect States' Ability to Implement Increasing Program Requirements.* Report No. GAO/RCED-00-199. August 2000. 84 p. [http://www.gao.gov/archive/2000/rc00199.pdf]

Table 5. U.S. Code Sections of the Safe Drinking Water Act (Title XIV of the Public Health Service Act)

(42 U.S.C. 300f-300j-26)

42 U.S.C.	Section Title	Safe Drinking Water Act (as amended)
Subchapter XII -	Safety of Public Drinking Water Systems	
Part A -	Definitions	
300f	Definitions	sec. 1401
Part B -	Public Water Systems	
300g	Coverage	sec. 1411
300g-1	National drinking water regulations	sec. 1412
300g-2	State primary enforcement responsibility	sec. 1413
300g-3	Enforcement of drinking water regulations	sec. 1414
300g-4	Variances	sec. 1415
300g-5	Exemptions	sec. 1416
300g-6	Prohibitions on the use of lead pipes, solder, and flux	sec. 1417
300g-7	Monitoring of contaminants	sec. 1418
300g-8	Operator certification	sec. 1419
300g-9	Capacity development	sec. 1420
Part C -	Protection of Underground Sources of Drinking Water	
300h	Regulations for state programs	sec. 1421
300h-1	State primary enforcement responsibility	sec. 1422
300h-2	Enforcement of program	sec. 1423
300h-3	Interim regulation of underground injections	sec. 1424
300h-4	Optional demonstration by states relating to oil and natural gas	sec. 1425
300h-5	Regulation of state programs	sec. 1426
300h-6	Sole source aquifer demonstration program	sec. 1427
300h-7	State programs to establish wellhead protection areas	sec. 1428
300h-8	State ground water protection grants	sec. 1429
Part D -	Emergency Powers	
300i	Emergency powers	sec. 1431
300i-1	Tampering with public water systems	sec. 1432
300i-2	Terrorist and other intentional acts	sec. 1433
300i-3	Contaminant prevention, detection, and response	sec. 1434
300i-4	Supply disruption prevention, detection and response	sec. 1435
Part E -	General Provisions	Title II
300j	Assurance of availability of adequate supplies of chemicals necessary for treatment of water	sec. 1441
300j-1	Research, technical assistance, information	sec. 1442
300j-2	Grants for state programs	sec. 1443
300j-3	Special project grants and guaranteed loans	sec. 1444

42 U.S.C.	Section Title	Safe Drinking Water Act (as amended)
300j-4	Records and inspections	sec. 1445
300j-5	National Drinking Water Advisory Council	sec. 1446
300j-6	Federal agencies	sec. 1447
300j-7	Judicial reviews	sec. 1448
300j-8	Citizen civil actions	sec. 1449
300j-9	General provisions	sec. 1450
300j-11	Indian Tribes	sec. 1451
300j-12	State revolving loan funds	sec. 1452
300j-13	Source water quality assessment	sec. 1453
300j-14	Source water petition program	sec. 1454
300j-15	Water conservation plan	sec. 1455
300j-16	Assistance to colonias	sec. 1456
300j-17	Estrogenic substances screening program	sec. 1457
300j-18	Drinking water studies	sec. 1458
Part F -	Additional Requirements to Regulate the Safety of Drinking Water	
300j-21	Definitions	sec. 1461
300j-22	Recall of drinking water coolers with lead-lined tanks	sec. 1462
300j-23	Drinking water coolers containing lead	sec. 1463
300j-24	Lead contamination in school drinking water	sec. 1464
300j-25	Federal assistance for state programs	sec. 1465
300j-26	Certification of testing laboratories	

Note: This table shows only the major code sections. For more detail and to determine when a section was added, the reader should consult the official printed version of the U.S. Code.